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Participation restrictions across domains of life

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Participation restrictions at work indicate participation restrictions in other domains of life

Authors and institutions of origin:

Dipl.-Psych. Dr. Phil. Beate Muschalla[1], Dr. Med. Martyn Vilain[1], Christof Lawall[2], Mario Lewerenz[2], Prof. Dr. Med. Michael Linden[1]

[1]Psychosomatic Rehabilitation Research Group at the Charité University Medicine Berlin and the Seehof Rehabilitation Centre, Teltow/Berlin

[2]The German Pension Fund, Berlin

Address for correspondence:

Dr. Beate Muschalla, Psychosomatic Rehabilitation Research Group Charité Berlin, beate.muschalla@gmx.de

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Abstract

Background: Health problems are often associated with activity limitations and participation restrictions, as defined in the International Classification of Functioning, Disability and Health (ICF). This often affects the workplace in the form of sick leave or a reduction in productivity. The question is: to what extent are participation restrictions at work related to participation restrictions in other domains of life?

Method: A total of 382 primary health care patients (aged 18-65) were asked to provide information on their employment status, perceived health-related workplace problems and sick leave status. Health-dependent participation restrictions across different domains of life were assessed using the *Index for Measuring Participation Restrictions* (IMET)self rating questionnaire.

Results: Currently unemployed patients reported significantly higher degrees of participation restrictions across all domains of life than the employed participants. Employed patients with workplace problems scored higher than patients without workplace problems. The domain of work encompassed the highest level of impairment, while the lowest was observed in personal relationships.

Conclusion: Workplace problems occur frequently for primary health care patients. They coincide with participation restrictions in other domains of life. For patients who complain about their capacity to work, diagnosis and treatment must not only focus on the work domain, but also enquire into and consider participation restrictions in other domains of life.

Keywords: ICF; workplace problems; work absenteeism; impairment of functions; activity limitations; participation restrictions; sick leave; primary health care

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Introduction

Beyond the symptoms: participation restrictions in primary care

Acute illnesses, and chronic illnesses to an even greater extent, are not only associated with symptoms, i.e., "disorders of functions," but also disabilities, i.e., "activity or capacity limitations," and consequently with problems at the workplace, in the family context and during leisure time, i.e., "participation restrictions," according to definitions of the International Classification of Functioning, Disability and Health (ICF; WHO, 2001). Therefore, physicians must not only treat the symptoms of the illness as such, i.e., the functional impairment, but also help patients to overcome or prevent health-dependent activity limitations and participation restrictions, such as work disability or the general impairment of social functioning (German Social Law, SGB IX, 2007). General practitioners in particular attest to patients' inability to work, initiate rehabilitation measures or contact social welfare and support institutions on a daily basis (Muschalla, Vilain, Lawall, Lewerenz, & Linden, 2009).

Work-related participation restrictions and participation restrictions beyond work

Problems at work are of particular importance in general health care, as physicians are in control of sick leave certification (Claussen & Helmert, 1998; Guzman, Yassi, Cooper, & Khokhar, 2002; Wasem, Verdon, Holtz, Decrey, & Boillat, 2001; Muschalla, Vilain, Lawall, Lewerenz, & Linden, 2009; Bundesausschuss der Ärzte & Krankenkassen, 2004). There are many studies on health-related occupational disability, such as reduced work productivity or absence from work (Haslam, Atkinson, Brown, & Haslam, 2005; Kühn et al., 2002; Lamb et al., 2006). However, work is only one domain of life, and the question is: how are problems in this domain related to problems in other domains of life?

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On the one hand, the workplace is a domain of life which shows very little tolerance towards activity limitations, due to explicit rules, hierarchies, achievement requirements, time limits and sanctioning mechanisms. Therefore, it can be assumed that health-dependent activity limitations first become visible in the workplace (Linden & Muschalla, 2007; Linden, Baron, & Muschalla, 2009), while there is greater flexibility and freedom in other domains of life – like leisure time, housework, or friends and family – which allows individuals to better adjust to and compensate for their activity limitations. This could result in less severe participation restrictions in these domains. For example, a person who cannot go to work may still be able to go to the cinema. The alternative hypothesis is that participation restrictions affect non-work domains first. A sick person may stop going to the cinema before he or she stops going to work, as being absent from work could have more negative consequences.

There is some evidence in the scientific literature that participation disorders at work and at home may differ depending on the type of health problem. Druss et al. (2008) suggested that chronic somatic disorders were associated with impairment at work and in activities of daily living, while mental disorders primarily resulted in problems with social contacts and close relations. Selmi et al. (2007) found that patients with biliary cirrhosis reported activity limitations in sports or hobbies, but not in other social activities. Research on quality of life and negative life events also suggests that different domains of life are susceptible to impairment in different ways (Bullinger & Brütt 2009; Deck, Mittag, Hüppe, Muche-Borowski, & Raspe, 2006; Graf, 2008; Linden et al., 2009; Linden & Ritter, 2007; SALSA collaborative study group, 2007; Tait, Pollard, Margolis, Duckro, & Krause, 1987; WHO, 2001).

Objective

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The present study aims to investigate the inter-relationship between health-dependent participation restrictions in different domains of life and especially how problems at work are related to problems in other domains of life. The answer to this question may help to understand the social consequences of illness and to guide clinicians in caring for their patients.

Method

Patients and physicians

Patients, aged between 18-65, were contacted in the waiting rooms of primary care physicians (two general practitioners, three internists, one gynaecologist, one orthopaedic doctor, two surgeons and two ear, nose and throat specialists) who could all be contacted by patients directly and without a referral.

Procedure and instruments

Patients coming into the surgery were asked to fill in a short questionnaire on their general health status. Participation was voluntary. The participants first provided information on their general sociodemographic characteristics, sick leave duration and the number of different physicians they had consulted in the past three months. The latter two items served as global indicators of the subjects' degree of health impairment and multimorbidity.

Patients who were currently employed were asked whether they were suffering from workplace problems, and if so, what type of problems. They were also asked whether they were afraid that they could lose their job because of their health problems, or whether their job was in danger because of other reasons.

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Health-dependent participation restrictions were assessed with the Index for Measuring Participation Restrictions (IMET; Deck et al., 2006), a self-rating scale covering the different domains of life: (1) the basic activities of daily living (washing, dressing, eating, moving around one's home); (2) activities within family and at home (housework and gardening); (3) activities outside the home (shopping, visiting institutions, using public transport); (4) daily duties (going to work, carrying out housework, organising and carrying out daily duties); (5) leisure time and relaxation (hobbies, sports, holiday trips); (6) social activities (meeting friends and relatives, going out for a meal or to the theatre or cinema); (7) close personal relationships (caring about close friends and partners); (8) sexual activities (frequency and quality); (9) general problem-solving (specific life problems, greater family conflicts, professional burdens which are not everyday issues); and (10) occupation and work (efficiency and fulfilling professional duties during a working day, quality and quantity). The instructions given to the patients read: "To what degree do you feel restricted in participating in these life activities because of your health problems?" Each item was rated on a Likert scale from 0 (no impairment) to 10 (complete impairment).

Data analysis

The data were analysed with SPSS-PC version 12.0. Relative frequencies were calculated and t-tests were used to investigate the differences between independent groups of participants. All statistical tests were two-sided, with a level of significance of $p<0.05$.
An exploratory factor analysis (main component analysis with varimax rotation) was carried out for the dimensions of health-related participation restrictions in order to clarify their interrelation.

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Results

Patient sample and work status

A total of 382 patients were included in the study. The average age of the patients was 42.7 years old (*SD*=11.9) and 72.3% were female. The high percentage of women is in part due to the fact that a gynaecologist was included in the study. A total of 78.3% (*N*=299) of the interviewees were presently employed, and 19% of this group were currently on sick leave. In addition, 10.6% had been on sick leave for longer than six months. Of the patients, 54.3% were suffering from an acute illness at the time of the investigation, while 29.1% were seeking medical help because of a chronic illness and 16.7% because of a preventive medical investigation.

Of the employed persons, 27% reported problems at their workplace: 15% complained about the amount of work, 14% about the working conditions, 6% about the content of their work and 4% about social conflicts and bullying. In total, 6% of the employed patients did not want to go back to their present job and were looking for another one, 5% were afraid that they could lose their job because they were frequently on sick leave and 2% had already experienced problems because of frequent or long-term sick leave. Twelve percent said that they were afraid that they could lose their job because of external reasons (structural, technical or personnel changes).

There were no significant differences between men and women with regard to employment status or the degree of health-related participation restrictions. Significantly more men were on sick leave than women, and their sick leave was significantly longer (M: 29%, for an average of 3.12 weeks, F: 15%, for an average of 1.17 weeks). Men had also had longer periods of sick leave over the past 12 months (M: 4.15 weeks, F: 3.03 weeks).

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Degree and correlations of participation restriction across life domains

Table 1 provides a summary of the results of the IMET. The average scores for all of the patients ranged between 0.82 for the dimension of close personal relationships and 2.04 for the occupation and work dimension. On a scale of 0 to 10, the average scores reflect mild to moderate degrees of impairment.

All of the ratings of impairment were significantly (but moderately) correlated with the number of physicians consulted during the last three months, ranging from r=.122* for close personal relationships to r=.230** for general problem-solving.

[Insert Table 1 about here]

In the factor analysis, 83.4% of variance was explained by three factors (Table 2). Factor 1 comprises participation in home and leisure activities, factor 2 is interpersonal relationships and factor 3 is work and unusual problems.

[Insert Table 2 about here]

Participation restrictions in employed and unemployed patients

When comparing employed and unemployed patients, the IMET scores of the unemployed patients were significantly higher throughout all domains (Table 1). The highest degree of participation restriction and also the largest difference between the employed and unemployed patients was found in the domain of "occupation and work," with the lowest

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degree of participation restriction in "close personal relationships." Unemployed patients also reported a higher number of consulted physicians and longer sick leave.[1]

Participation restrictions in employed patients with and without workplace problems

When comparing employed patients with and without problems at work (Table 1), the degree of participation restriction was significantly higher in patients with workplace problems in almost all domains of life (except in activities outside the home). They achieved higher scores, especially in "occupation and work," but also in the domains of "general problem-solving" and "leisure time and relaxation". They also had significantly longer periods of sick leave than patients without workplace problems.

Discussion

Differential meaning of participation restrictions

The data show that patients in primary health care suffer to a relevant degree from participation restrictions across many domains of life. When comparing the absolute degree of participation restriction, "profession and work" received the highest scores and "close personal relationships" the lowest. This can be seen as an indicator that the workplace is a domain with special importance and demands. Health-dependent activity limitations immediately result in negative consequences at work, leading to restrictions in work participation. Close personal relationships, by contrast, are not necessarily negatively affected by illness. In certain cases, illness can even lead to greater intimacy, which is why it has been suggested that close personal relationships and social activities are, to a certain degree, independent from the other domains of participation (Druss et al., 2008; Selmi et al., 2007).

[1] Unemployed patients are "on sick leave" if they are allowed not to present themselves at the state job centre because of an illness certificate.

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The data also show that primary care physicians are often confronted with the workplace problems and health-dependent workplace participation restrictions of their patients. This corresponds with results from interviews with physicians (Lawall et al., 2007; Muschalla et al 2009), 44% of whom stated that they deal with the workplace problems of their patients on a daily basis, and in 33% of cases, several times a week at least.

Intercorrelations of participation restrictions and their relation to problems at work

Factor analysis of the domains of participation restrictions showed that there are differences in the strength of the relationships between different domains. There are three major domains, i.e., "daily duties in home and leisure time" (i.e., outside work, factor I), "close personal relationships and sexuality" (factor II) and "work, occupation and problem-solving" (factor III). This differentiation has great face validity. These domains require different capacities and therefore can be affected by illness in different ways. The fact that impairment at work is a separate factor from private life and interpersonal relationships suggests that work is a special area in life. The question remains of whether it is affected by illness in a separate way.

The comparisons between employed and unemployed patients, as well as comparisons between patients with and without problems at work, suggest that work and other domains of life are affected by health-dependent participation restrictions in similar ways (Bernkley et al., 2006, Scheid, 1993). In comparing employed patients with and without workplace problems, those with workplace problems not only reported higher scores for participation restrictions in the domain of occupation and work, but also across all other life domains, including leisure activities, social activities and personal relations. A similar picture emerges when comparing employed and unemployed patients. Unemployment seems to be indicative

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of participation restrictions in general. This suggests that unemployment can be partly interpreted as a health-related inability to work.

In conclusion, these findings suggest that if health-dependent participation restrictions exist, they affect not only select domains, but all of the domains of everyday life. However, the workplace seems to be of specific importance.

For clinical medical practice, this means that physicians must not only be aware of and treat workplace-related participation restrictions, but also participation restrictions in the other domains of life (Galvao, Watzke, Gawlik, Hühne, & Brieger, 2005; Baron & Linden, 2008). Workplace problems become obvious more easily than, for example, problems in close personal relationships or sexual relationships, due to the fact that participation problems at work can result in a need for medical certification for sick leave.

Therefore, patients should be asked explicitly about participation restrictions in the domains of life other than work.

Limitations of the study

Due to the limited number of patients and physicians, an epidemiological interpretation of prevalence rates of workplace problems and degrees of participation restriction is not possible.

Differentiating and comparing patients according to specific illness types or the specialities of their physicians was not the topic of analysis, especially as primary care patients are usually multimorbid (Fortin, Lapointe, Hudon, & Vanasse, 2005).

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The assessments used in this study are based on self-reports. Further research is needed which includes external validation of reported activity and participation problems in the non-work domains.

This study is cross-sectional. It therefore cannot answer the question of whether health-related participation problems at work and at home develop simultaneously or one after the other. Therefore, longitudinal studies are needed which should also clarify whether knowing about participation problems in other domains of life can help to generate an early diagnosis of work problems and lead to preventive action.

Conclusion

Work-related participation restrictions frequently affect patients in primary health care. Although they are dominant, they are closely related to participation restrictions in other domains of life.

Dealing with activity limitations and participation restrictions is an important task for primary care physicians. It is part of their duty to sustain (work) participation. It is well known that therapeutic interventions in rehabilitation and in the prevention of work incapacity, sick leave or early retirement are more effective when they are started early in the illness process (Cinar et al., 2008; Dafoe, Arthur, Sokes, Morrin, & Beaton, 2006; Killackey & Yung, 2007).

Physicians should direct their attention and interventions towards non-work domains of life. They should ask patients not only whether they feel able to work, but also whether they have hobbies and social contacts, about the development of their family life, and whether they feel restricted in any of their usual life activities due to their health status. When such participation restrictions become obvious, the physician should help to restore the impaired abilities, by, for example, sending the patient to other specialists, specific health-related training, occupational or medical rehabilitation programmes, sports or (psycho-)therapy

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groups, or by contacting relevant institutions. Primary physicians should act in a comprehensive way as “disease managers” (Linden, Gothe, & Ormel, 2003; Muschalla et al., 2009).

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Table 1. *IMET scores for employed and unemployed patients (N=382) and employed patients with and without problems at work (N=299)*

IMET Health-dependent participation restrictions	**Mean (SD) All patients (N=382)**	**Mean (SD) Unemployed patients (N=83)**	**Mean (SD) Employed patients (N=299)**	**Signifi-cance of difference**	**Employed patients with problems at the workplace (N=81)**	**Employed patients without workplace problems (N=218)**	***p***
(1) Basic activities of daily living	0.95 (1.9)	1.6 (2.5)	0.8 (1.7)	.008***	0.9 (1.7)	0.7 (1.6)	.290
(2) Activities within the family and at home	1.47 (2.2)	2.2 (2.9)	1.3 (2.0)	.013**	1.9 (2.3)	1.0 (1.8)	.007***
(3) Activities outside the home	1.04 (2.0)	1.9 (2.6)	0.8 (1.7)	.001**	1.0 (2.5)	0.7 (1.6)	.393
(4) Daily duties	1.61 (2.6)	2.5 (3.5)	1.4 (2.2)	.009***	1.9 (2.5)	1.2 (2.0)	.022**
(5) Leisure time and relaxation	1.66 (2.5)	2.4 (3.0)	1.5 (2.4)	.018**	2.1 (2.6)	1.3 (2.2)	.041**
(6) Social activities	1.08 (2.1)	1.7 (2.5)	0.9 (1.9)	.012**	1.6 (2.5)	0.7 (1.6)	.009**
(7) Close personal relationships	0.83 (1.8)	1.2 (2.2)	0.7 (1.6)	.055*	1.5 (2.4)	0.4 (1.1)	.001***
(8) Sexual activities	1.24 (2.3)	1.9 (3.0)	1.1 (2.2)	.020**	1.5 (2.6)	0.9 (1.9)	.046**
(9) General problem-solving	1.58 (2.5)	2.2 (3.0)	1.4 (2.3)	.043**	2.4 (2.8)	1.0 (1.9)	.000***
(10) Occupation and work	2.04 (2.8)	3.4 (3.8)	1.8 (2.5)	.005***	3.0 (2.9)	1.3 (2.1)	.000***
Additional parameters							
Number of different physicians consulted in the past three months	1.83 (1.6)	2.1 (1.7)	1.8 (1.6)	.083*	2.2 (2.4)	1.6 (1.1)	.042**
Presently on sick leave	19%	18%	19%	.893	25%	17%	.163
Duration of present sick leave in weeks	1.69 (8.1)	4.8 (16.7)	1.0 (4.0)	.130	3.1 (8.5)	0.5 (1.5)	.046**
Duration of sick leave in the past 12 months in weeks	3.4 (7.7)	6.9 (13.7)	2.8 (5.9)	.055*	5.0 (9.5)	2.1 (4.2)	.024**
Age	42.8 (11.9)	48.3 (12.9)	41.2 (11.1)	.000***	41.6 (9.5)	41.2 (11.9)	.753
Female	72%	71%	73%	.792	80%	69%	.045**
Professional qualifications:							

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No professional qualification	4.3%	10.3%	2.7%	1.3%	2.9%
Student/apprentice	4.9%	1.3%	5.8%	5.1%	5.8%
Non-academic qualification	66.0%	73.1%	64.1%	67.9%	62.5%
Higher non-academic qualification	4.3%	2.6%	4.8%	3.8%	4.8%
University diploma	20.5%	12.8%	22.5%	21.8%	23.6%

Note. The degree of participation restrictions for each dimension was rated by the patients on a scale from 0 (no disability at all) to 10 (full disability). Percentages are related to the subgroup.

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Table 2. *Factor analysis for all dimensions of participation restrictions (IMET): main components analysis with varimax rotation (N=382)*

IMET **Health-dependent participation restrictions**	**Factor I**	**Factor II**	**Factor III**
(1) Basic activities of daily living	**.879**	.213	.101
(2) Activities within the family and at home	**.839**	.252	.281
(3) Activities outside the home	**.845**	.230	.263
(4) Daily duties	**.768**	.208	.512
(5) Leisure time and relaxation	**.734**	.339	.340
(6) Social activities	**.595**	**.506**	.330
(7) Close personal relationships	.262	**.786**	.317
(8) Sexual activities	.249	**.873**	.204
(9) General problem-solving	.218	.417	**.823**
(10) Occupation and work	.510	.259	**.754**

***$p<.01$, **$p<.05$, *$p<.10$

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